2010

URBAN WATER MANAGEMENT PLAN

Prepared by:

Oildale Mutual Water Company
2836 McCray Street
Bakersfield, CA 93308

Dee Jaspar & Associates, Inc.
3701 Pegasus Drive, Suite 121
Bakersfield, CA 93308

2010
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Oildale Mutual Water Company

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EXHIBIT A SERVICE AREA MAP

SECTION 1

PLAN PREPARATION

1.1 PUBLIC PARTICIPATION

The Oildale Mutual Water Company ("OMWC" or "Company") has over the years sought public participation in developing its water management plans since the first plan was adopted in 1985. The OMWC was involved in public hearings and the development of each of the plans in 1985, 1990, 1995, 2000, 2005 and its current 2010 plan update. In addition, each year stockholder meetings are held whereby any concern or suggestion of any customer/stockholder can be expressed. Additionally, presentations at local service clubs have been performed soliciting comments from the community.

OMWC updated its water management plan during the 2011 calendar year. A public hearing was held JUNE 23, 2011 and the 2010 Plan was adopted by the Company's Board of Directors on JUNE 23, 2011.

1.2 AGENCY COORDINATION

OMWC has coordinated the preparation of its plan with the various other water purveyors including the Kern County Water Agency ("KCWA" or "Agency"), North of the River Municipal Water District ("NORMWD"), City of Shafter, North Kern Water Storage District (NKWSD) and the County of Kern.

OMWC is a member of the Urban Bakersfield Advisory Committee ("UBAC") which is an advisory committee to the KCWA Board of Directors. Obtaining an imported water supply to the greater Bakersfield urban area known as Improvement District No. 4 ("ID#4") of the KCWA has been a priority of the Agency Board. OMWC has worked closely with the Agency along with other purveyors within the ID#4 area to insure an adequate water supply for present and future customers of each purveyor.

Table 1
Coordination with appropriate agencies

Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
KCWA	x	x		x	x	x	
NKWSD					x	x	
NORMWD					x	x	
Shafter	x	x	x	x	x	x	
Kern Co.					x	x	
DPH					x	x	

1.3 IMPLEMENTATION

The 2010 Urban Water Management Plan will be implemented on the day following the day that it is adopted by the OMWC Board of Directors.

Demand Management Measures will be implemented in accordance with the schedule in Section 6.

SECTION 2

SYSTEM DESCRIPTION

2.1 SUPPLIER SERVICE AREA

OMWC was incorporated in October 1919 for the purpose of providing domestic water to its customers/stockholders at cost. OMWC is regulated by the State of California Corporations Commissioner and the State Department of Public Health.

The current service area encompasses approximately 10 square miles north of the City of Bakersfield in Kern County at the south end of the San Joaquin Valley, approximately 110 miles north of Los Angeles and 290 miles southwest of San Francisco. The Kern River is the southern boundary. The west boundary generally follows Highway 99 and it's frontage road north of the Kern River to Merle Haggard Drive (previously 7th Standard Road) where it turns westerly to follow Merle Haggard Drive 1/8th of a mile to the Beardsley Canal. It then turns northwesterly and follows the Canal about one mile to the north line of Section 31 T28S, R26E, MDB&M. There it turns easterly and intersects the Kern River Oilfield, then turns southward to return to the Kern River generally parallel to and easterly of Manor Street. Water is delivered to Chevron, Inc., for domestic use in the Kern River Oilfield. OMWC presently has, within its Service Area boundary, an unincorporated area of approximately 18 square miles. (See Exhibit A.)

OMWC expanded its service area boundary in 2006 to include Southeast Shafter. This area includes 5,226 acres of agricultural land that is projected to be developed in the next twenty to thirty years. No roads, infrastructure, or houses have been built since the downturn of the economy in 2008. It is not known when development of this property will begin. At the time of the 2005 UWMP it was anticipated that 11,778 housing units would be constructed with a population of 33,568 residents. The area would be supplied by groundwater. The water use calculations are a part of the 2005 Shafter Urban Water Management Plan.

The existing OMWC service area is herein referred to as the “Oildale Service Area” and the Shafter service area as the “Southeast Shafter Service Area”.

The ground surface within the Oildale Service Area rises gently from 400 feet above sea level (“MSL”) at the Service Area’s southern corner adjacent to the Kern River to 800 feet at the northeast corner of the Service Area. Ground surface elevations in the Southeast Shafter

Service Area are 350 feet to 400 feet MSL.

The climate is typical of the lower San Joaquin Valley. Summers are normally hot and very dry with temperatures often exceeding 100°F. Winters are cool with temperatures ranging from 40°F to 60°F, occasionally dropping below 32°F. Winter months commonly have night and morning fog.

Average annual rainfall ranges from 6 - 7 inches with most rainfall occurring between November and April. Predominant winds during the winter are less than 10 mph from the northwest. High winds occasionally occur through the year producing dust storms. See Table 2.

Table 2
Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Avg. Eto (in)	1.25	2.07	3.85	5.69	7.48	7.98	8.23	7.40	5.78	4.11	2.04	1.18	57.06
Avg. Rainfall (in)	1.06	1.18	1.11	0.67	.22	0.07	0.01	0.04	0.10	0.30	0.59	0.86	6.21
Avg. Temp. (° F)	47.9	52.8	57.2	62.9	70.4	77.7	83.8	82.1	76.9	67.3	55.6	48.0	-

Et data from DWR CIMIS records for Station No. 005, USDA/Shafter Southwest. Records 1982 - 2010. Rainfall data from Western Regional Climate Center Bakersfield WSO Airport. Records 1937 - 2010.

The land uses within Oildale consist of a combination of oil-related and other industry, commercial, public, small lot single-family residential and high-density residential (apartments, trailer parks). Proposed land use within the Southeast Shafter Service Area is single family residential. As of 2010 OMWC had 8,112 service connections serving a population of approximately 23,386.

Population

Projected water production requirements set forth are based on projected population, planned land uses and pertinent water production data. The population within the Oildale Service Area has increased gradually over the last 20 years and is expected to continue to increase gradually with continuing development.

The 2000 and 2009 population data estimates for the Oildale Service Area were generated from available census population data from the U.S. Census Bureau. The Year 2000 Oildale Community population was 27,885 persons, and had increased to 32,374 persons at the end of 2009. This translates into an annual growth rate of 1.67%.

The 2009 U.S. Census Bureau demographic data indicates that the median family income was $47,547 and that 18.4% of families and 21.7% of the population of Oildale have income below the poverty level.

The Oildale community population in the year 2000 was estimated to be 27,885 with 10,983 occupied housing units equating to 2.54 persons per housing unit. In the year 2000 OMWC had 6,797 total service connections. OMWC did an exhaustive survey of its service area for 2000, utilizing the census block data from the U.S. Census Bureau and determined that the population of its service area was 19,813 for an average occupancy of 2.915 persons per connection. The Year 2000 population for OMWC (19,813) was projected forward to the Year 2010, and rearward to the Year 1995 using the average annual U.S. Census Bureau growth rate for the Oildale community of 1.67%. These values were used for the development of historical gpcd data and calculation of SB7X7 target consumption values.

Data developed by Kennedy-Jenks Consultants for Improvement District No.4 of the Kern County Water Agency and North of the River Municipal Water District predicted that the service areas for these two agencies would grow at a rate of about 1.5 percent per year [1]. The U.S. Census Bureau data cited above indicates a growth rate for the Oildale community of 1.67% for the period 2000 - 2009, which is supportive of the Kennedy-Jenks prediction. Therefore a growth rate of 1.5% per year was used to predict the OMWC service area population 2011 through 2030. Additionally it is assumed that there will be very slow development in the Southeast Shafter Service Area, at nowhere near the earlier projections when the housing market was booming. It was assumed that the area would not begin to be populated until 2016, and thereafter would grow

[1] KCWA/ID#4/NORMWP Urban Water Management Plan

by 600 persons (200 housing units at 3.0 persons per household) for each five year period through the year 2030. Table 3 shows the projected population for the Oildale service area through 2030.

Table 3
Population Projection

	2010	2015	2020	2025	2030
Oildale Service Area Population	23,386	25,193	27,740	30,438	33,298
SE Shafter Service Area Population	0	0	600	1,200	1,800
Totals	**23,386**	**25,193**	**28,340**	**31,638**	**35,098**

SECTION 3

SYSTEM DEMANDS

3.1 WATER USE

Oildale Service Area

Water deliveries within the Oildale Service Area has gradually increased over the past 20 years. The growth in water deliveries generally illustrated by Table 4 sets forth historic deliveries and related information for 1995 through 2010.

Prior to 1977, all water delivered by OMWC was produced by its groundwater wells averaging approximately 6,500 acre-feet per year. In 1975, OMWC contracted with NORMWD for 6,500 acre-feet per year of imported surface water supply to augment its groundwater supply. First deliveries of imported surface water was received in 1977 and water production from groundwater wells was reduced significantly. Many of the wells in service prior to 1977 remain in service and are used for supplemental backup to the imported surface water.

In 1977, as a result of severe drought conditions, OMWC began numerous water conservation activities. These activities were performed not only by the OMWC itself, but in conjunction with the KCWA and the Water Association of Kern County. Through these efforts, water consumption dropped to a low of 5,048 acre-feet in 1977 (.87 acre-feet per connection).

1995 water use was 0.95 acre-feet per connection. Water usage per connection has increased gradually from 1977 levels but has continued to be below pre-1977 levels. 2010 water use was 0.88 acre-feet per connection.

Southeast Shafter Service Area

The Southeast Shafter Service Area was projected to start up between 2005 and 2010. This area will be served by groundwater. As the development of this area was discontinued in 2009 due to the downturn in housing demand. For planning purposes, minimal development of about 200 units per five year period is anticipated, with water demands beginning in the year 2016.

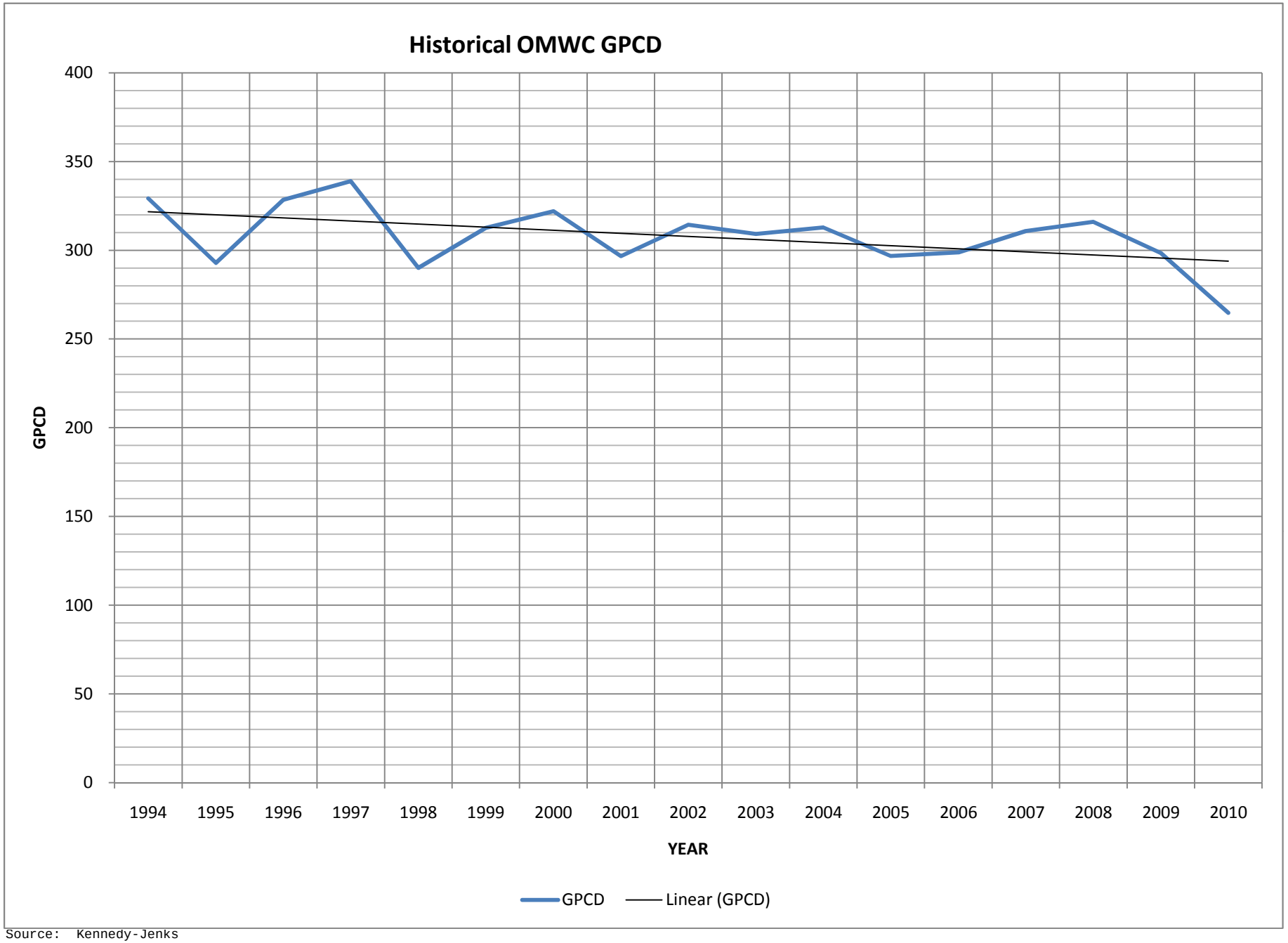
Metered and Non-metered Usage

As of 2010, OMWC serves water to 8,112 service connections. Since most of OMWC's water is supplied to non-metered services, records for separating consumption between residential, industrial, commercial and governmental are not available. However, those services which are metered generally service properties other than single-family residential. All service connections in excess of 1" are metered. It is appropriate to consider the metered services to represent multi-family residential, commercial, industrial and office land uses for water production projections. The same cannot be said of flat rate services, which supply water to all classifications of services. Approximately 90% of the flat rate services serve single-family residences, while the remaining 10% service other classifications of service.

Metered usage per connection is considerably greater than flat rate usage due to the fact that all large diameter connections are metered. These serve heavy commercial and industrial users as well as apartment complexes, trailer parks and park areas. The addition of a single large metered connection can skew the usage per connection and therefore the comparison of average usage per metered connection cannot be used as an indicator for trends in water usage in that class. Each metered connection must be analyzed separately to determine water consumption patterns.

Gross company water use figures provide a fairly accurate indicator of the trends in water consumption. All non-metered service connections are either ¾" or 1" in diameter and therefore do not service any single large water user.

The overall trend in company water use is shown graphically in the following chart.



Source: Kennedy-Jenks

Table 4
Historic Water Use

Year No.	Calendar Year	Number of Services	Population	Annual Gross Water Use (afy)	Annual Daily Water Use (gpcd)
1	1995	6,450	18,211	6,158	293
2	1996	6,455	18,521	7,026	329
3	1997	6,459	18,836	7,373	339
4	1998	6,512	19,156	6,416	290
5	1999	6,559	19,482	7,033	313
6	2000	6,797	19,813	7,366	322
7	2001	6,844	20,144	6,901	297
8	2002	6,927	20,481	7,435	314
9	2003	7,560	20,824	7,436	309
10	2004	7,762	21,172	7,649	313
11	2005	7,775	21,526	7,377	297
12	2006	7,820	21,886	7,551	299
13	2007	7,941	22,252	7,988	311
14	2008	8,083	22,624	8,258	316
15	2009	8,111	23,002	7,927	298
16	2010	8,112	23,386	7,148	265

Annual daily water use (gpcd) accounts for 3% system losses.

OMWC has consistently reduced its daily per capita water use over the past 15 years.

Baselines and Targets

The following Table 5 develops the Five and Ten Year Average Per Capita Water Use Targets utilizing Option 1. 80% of baseline gpcd water use.

The majority of OMWC's service area is unmetered. However OMWC has an accurate record of water supplied to its service area as the majority of its supply is treated surface water supplied from the ID 4 Henry Garnett Water Purification Plant, delivered to OMWC's system through metered turnouts. OMWC also has a groundwater supply and this is also metered. Table 5 presents the water supply and population data from which the annual daily per capita water use is

calculated. The derivation of population data is discussed in Section 2.

Table 5

Year No.	Calendar Year	Number of Services	Population	Annual Gross Water Use (afy)	Annual Daily Water Use (gpcd)	Ten - Year Average (gpcd)	Five - Year Average (gpcd)
1	1995	6,450	18,211	6,158	293	**312**	
2	1996	6,455	18,521	7,026	329	312	
3	1997	6,459	18,836	7,373	339	309	
4	1998	6,512	19,156	6,416	290	306	
5	1999	6,559	19,482	7,033	313	309	
6	2000	6,797	19,813	7,366	322	308	
7	2001	6,844	20,144	6,901	297		
8	2002	6,927	20,481	7,435	314		
9	2003	7,560	20,824	7,436	309		306
10	2004	7,762	21,172	7,649	313		**307**
11	2005	7,775	21,526	7,377	297		304
12	2006	7,820	21,886	7,551	299		
13	2007	7,941	22,252	7,988	311		
14	2008	8,083	22,624	8,258	316		
15	2009	8,111	23,002	7,927	298		
					Period Selected	**312**	**307**

Annual daily water use (gpcd) accounts for 3% system losses.

Table 6
Calculation of 2020 and 2015 Target GPCD

Ten Year Base Period	**1995 - 2004**	**Highest Ten Year Average = 312 gpcd**
Five Year Base Period	**2003 - 2007**	**Highest Five Year Average = 307 gpcd**
80% of Ten Year Baseline		**250 gpcd**
Maximum Target (95% of Five Year Base)		**292 gpcd**
2020 Target		**250 gpcd**
2015 Target		**281 gpcd**

Water Demands - Water Demand Projections

Table 7
Water deliveries — actual, 2005

	2005 (acre-feet)				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	900	626	4,285	3355	0
Multi-family	300	127	1,430	1119	0
Commercial	525	813	286	223	0
Industrial	34	1114	15	0	0
Institutional/governmental	0		0		0
Landscape	0		0		0
Agriculture	0		0		0
Other					0
Total	1,759	26800	6,016	46970	7,377
Total Number of Accounts			7,775		

Table 8
Water deliveries — actual, 2010 (acre-feet)

	2010				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	1,094	767	4,285	3050	0
Multi-family	412	116	1,430	1017	0
Commercial	552	918	286	214	0
Industrial	38	1066	15		0
Institutional/governmental	0		0		0
Landscape	0		0		0
Agriculture	0		0		0
Other					0
Total	2,096	2867	6,016	4281	7,148
Total Number of Accounts			8,112		

Table 9
Water deliveries — projected, 2015 (acre-feet)

	2015				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	1,510	1090	4,285	3140	0
Multi-family	554	160	1,430	1047	0
Commercial	617	1059	286	221	0
Industrial	42	1213	15		0
Institutional/governmental	0		0		0
Landscape	0		0		0
Agriculture	0		0		0
Other					0
Total	2,723	3522	6,016	4408	7,930
Total Number of Accounts			8,739		

Table 10
Water deliveries — projected, 2020 (acre-feet)

	2020				
	Metered		Not metered		Total
Water use sectors	# of accounts	Volume	# of accounts	Volume	Volume
Single family	1,958	1284	4,285	2421	0
Multi-family	708	187	1,430	807	0
Commercial	687	1066	286	170	0
Industrial	47	1233	15		0
Institutional/governmental					0
Landscape					0
Agriculture					0
Other					0
Total	3,400	3770	6,016	3398	7768
Total Number of Accounts			9,414		

Table 11
Water deliveries — projected 2025, 2030 (acre-feet)

	2025		2030	
	metered		metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume
Single family	6,725	4543	7,245	4970
Multi-family	2,303	1250	2,481	1367
Commercial	1,048	1392	1,129	1523
Industrial	66	1339	71	1464
Institutional/governmental	0		0	
Landscape	0		0	
Agriculture	0		0	
Other	0		0	
Total	10,142	8,524	10,926	9,324

Table 12
Low-income projected water demands (acre-feet)

Low Income Water Demands[1]	2015	2020	2025	2030
Single-family residential	2,154	2,252	2,448	2,692
Multi-family residential	718	751	816	898
Total	2,872	3,003	3,264	3,590

1. KCWA ID#4 2010 UWMP (data from 2007 KernCOG RHNA): 40.8% of housing units are classified as "very low" or "low" income level in Oildale. Table 2-8 of the KCWA ID#4 2010 estimates the total NORMWD Low-Income demand. Approximately 80% of NORMWD's demands are those of OMWC and therefore 80% of the demand numbers from Table 2-8 are used in the above tabulation. According to U.S. Census Bureau Profile of Selected Housing Characteristics – 2000, about 75% of the Oildale population lives in a single unit structure, with 25% of the population living in 2 to 20+ unit housing complexes. This percentage is used to develop the SFR and MFR Low-Income Housing Demand numbers shown in Table 12.

Table 13
Total water use (acre-feet per year)

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries (from Tables 7 to 11)	7,377	7,148	7,930	7,768	8,524	9,324
Sales to other water agencies	0	0	0	0	0	0
Additional water uses and losses	0	0	0	0	0	0
Total	7,377	7,148	7,930	7,768	8,524	9,324

Table 14
Retail agency demand projections provided to wholesale suppliers (acre-feet)

Wholesaler	Contracted Volume	2010	2015	2020	2025	2030
NORMWD	12,000	6,997	8,531	8,954	9,673	10,731

Water Use Reduction Plan

It is OMWC's position that any activity which reduces overall expenses should be

implemented as a matter of good business practice. It is not the responsibility of the OMWC to encourage or solicit growth as a general benefit to the community as a whole. Those duties are left to the City, County and State entities. OMWC does not have the ability to charge customers in order to benefit the City, County or State as a whole and further should not be involved in this activity. This type of funding should be by financing alternatives which are voter approved. Adding charges to a water billing to pay for general statewide benefits appears to bypass the voter and repercussions imposed on a water purveyor who does not do so would seem to be inappropriate.

However, OMWC has undertaken numerous water conservation measures over the past decades in order to minimize expenses of OMWC thereby maintaining as low a rate schedule as possible. Water conservation measures which have been cost effective have been welcomed by customers. Likewise, conservation measures aimed at reducing water consumption without a greater decrease in expenses have been rejected by OMWC's customers. The water conservation measures or "water demand management measures" as described in following sections of this Plan have been reviewed by OMWC over the years and adopted where cost-effective. In addition, other conservation measures have been reviewed and adopted due to their effectiveness with our customers.

SECTION 4

SYSTEM SUPPLIES

4.1 WATER SOURCES

4.1.1 Groundwater

The Oildale Groundwater Sub-Basin occupies a portion of the Kern County Sub-Basin and is defined generally as the boundaries of OMWC excluding the Southeast Shafter service area. It is a part of the Kern River alluvial fan area, which consists of an area of about 800 square miles in the southern end of the San Joaquin Valley. Mountains to the northeast, south, and southwest of the fan area form a U-shaped boundary to the valley, with an open end to the northwest. Formed by coalescing alluvial fan deposits from the Kern River and its immediately adjacent tributaries, the Oildale Sub-Basin is located on the northeast edge of the Kern River alluvial fan complex.

The City of Bakersfield, which is bounded to the north by the Kern River, is at the head of the alluvial fan of the Kern River. Oildale, and the service area of OMWC, is located north of Bakersfield, northerly of the intersection of the Kern River and Highway 99. (See Exhibit A.)

Although relatively flat, it slopes to the west and southwest from an elevation of approximately 750 feet in the northeastern part of the area, to approximately 400 feet in the westerly and southwesterly portion.

Prior to 1977, OMWC derived 100% of its water supply from groundwater within the Oildale Groundwater Sub-basin. Annually, water extracted from the groundwater basin averaged approximately 6,500 acre-feet per year. Reliance on groundwater as a primary water source contributed to a progressive decline in the regional water table. Expansion of water service to the northern most part of the Service Area was restricted due to the lack of high quality groundwater in the area. Recognizing the need for supplemental water supplies, OMWC contracted for imported water from the State Water Project via KCWA and the North of the River Municipal Water District (NORMWD). In 1977 OMWC began receiving imported treated water from KCWA ID#4 through NORMWD. OMWC has relied on imported water to supply over 95% of its total system requirements to a maximum of 7,377 acre-feet per year (2009). Between

1977 and 2010 groundwater extractions have ranged from 6 acre-feet per year to 2,285 acre-feet per year averaging 284 acre-feet per year. In 1991, groundwater extractions increased to 2,285 acre-feet per year due to reductions in the amount of imported State Water Project water delivered to OMWC.

In 1971 KCWA began receiving State Water Project water for groundwater replenishment within the ID#4 boundaries of which a major portion of OMWC is contained. This recharge activity and the decline in groundwater reliance, coupled with the natural recharge of the groundwater basin, alleviated stress on the groundwater basin in the Oildale area.

OMWC currently operates facilities which can provide over 50% of current average daily water supply requirements from its existing groundwater wells. The expansion of water service within the Service Area is possible with a combination of existing groundwater production facilities and increased imported supplies. This expansion of service will result in a greater reliance on both imported and groundwater supplies.

According to a 1996 hydrogeologic analysis of the Oildale Groundwater Sub-basin, an increase in groundwater withdrawal of 8,500 acre-feet per year would still result in a subsurface outflow, although diminished, along the peripheral boundaries of the Oildale service area. This study supports OMWC's reliance upon groundwater as a supplemental water supply source for backup as well as future water demands.

Water service in the SE Shafter service area will be provided by groundwater. This area is located within the North Kern Water Storage District (NKWSD) which has been responsible for delivery and storage of water for the benefit of the land owners within the NKWSD's boundaries. The proposed SE Shafter development is located in the southern portion of the NKWSD and present land use is agriculture.

4.1.2 Treated Surface Water

OMWC's main water supply is from the KCWA ID#4 Purification Plant which is directly reliant on State Water Project water supplies. KCWA ID#4 has an M & I supply of 77,000 acre-feet and 5,846 acre-feet of Agricultural Table A water from the State Water Project of which it has historically treated a minimum of 25,000 acre-feet for delivery to its treated water contractors. NORMWD entered into a contract with the

KCWA in 1974 to receive 8,500 acre feet of treated water. OMWC contracted with the NORMWD in 1974 to receive 6,500 acre feet of this supply. On September 22, 2005 a revised treated water contract with the NORMWD was signed allocating an additional 6,500 acre feet of treated water to NORMWD. Concurrently OMWC revised their contract with NORMWD to increase the OMWC's supply from 6,500 acre feet per year to 12,000 acre feet per year.

To facilitate the increase in contract entitlements to NORMWD and three other purveyors in the Bakersfield area the expansion of the Henry Garnett Water Purification Plant was required. The Plant expansion has been completed and it is now capable of meeting a demand of 53,000 acre-feet per year.

The following is a tabulation of total water deliveries for the years 2006 through 2010.

Table 15
Treated Surface Water and Groundwater — Volume Delivered (acre-feet)

Source	Surface or Groundwater	2006	2007	2008	2009	2010
NORMWD	**Surface Water**	6,559	5,897	6,303	6,508	6,997
Oildale Sub Basin	**Groundwater**	992	2,091	1,955	1,419	151
Total Water Delivered		7,551	7,988	8,258	7,927	7,148

Table 16
Water supplies — current and projected

Water Supply Sources		2010	2015	2020	2025	2030
Water purchased from:	**Wholesaler supplied volume (yes/no)**					
NORMWD	yes	6,997	8,530	8,950	9,675	10,730
Supplier-produced groundwater	no	151	313	493	675	857
Supplier-produced surface water	no	0	0	0	0	0
Transfers in		0	0	0	0	0
Exchanges In		0	0	0	0	0
Recycled Water		0	0	0	0	0
Desalinated Water		0	0	0	0	0
Other		0	0	0	0	0
Total		7,148	8,843	9,443	10,350	11,587

Table 17
Wholesale supplies — existing and planned sources of water (acre-feet per year)

Wholesale sources	Contracted Volume	2015	2020	2025	2030
North of the River Municipal Water District	12,000	8,530	8,950	9,675	10,730

4.1.3 Past, Present and Projected Groundwater Production

The following Tables 18 and 19 present the past and present groundwater production within the Oildale and Southeast Shafter Service Areas together with projections through the year 2030.

Table 18
Groundwater — volume pumped (acre-feet)

Basin name(s)	Metered or Unmetered	2006	2007	2008	2009	2010
Oildale Sub Basin	**Metered**	992	2,091	1,955	1,419	151
Kern County Sub Basin	**Metered**	0	0	0	0	0
Total groundwater pumped		992	2,091	1,955	1,419	151
Groundwater as a percent of total water supply		13%	26%	24%	18%	2%

Table 19
Groundwater — volume projected to be pumped (acre-feet)

Basin name(s)	2015	2020	2025	2030
Oildale Sub Basin	313	325	339	353
Kern County Sub Basin	0	168	336	504
Total groundwater pumped	313	493	675	857
Percent of total water supply	4%	5%	7%	7%

4.2 TRANSFER OR EXCHANGE OPPORTUNITIES

OMWC has limited opportunities to exchange or develop transfers of water either on a long or short term basis. The OMWC is a beneficiary of exchanges made by ID#4 but is not a direct participant in these exchanges or transfers. OMWC purchased the North of the River Sanitary District (NORSD) share of the outflow of the NORSD District No.1 Wastewater Treatment Plant. Currently this amounts to about 5,000 acre-feet per year (afy). This capacity is currently being used for in-lieu groundwater recharge in the Kern County Sub-Basin. This water could be made available in the future for transfer or exchange opportunities. However there are no plans for this at this time.

4.3 DEVELOPMENT OF DESALINATED WATER

There are no viable sources of salt water within Oildale's Service Area and therefore no opportunities for the development of this source. The area is not underlain by perched water nor is it near a body of saline surface water.

4.4 WATER RECYCLING

Water reclamation has been an ongoing operation in the Oildale area since the formation of the North of the River Sanitation District (NORSD) in 1942. The NORSD currently treats approximately 4 million gallons of water daily part of which originates from the OMWC's service area. The NORSD treats the wastewater and uses the water for groundwater recharge through direct percolation or indirect recharge by delivery for agricultural use. All water is utilized on properties which overlie the groundwater basin. This activity not only percolates water into the groundwater basin, but decreases the amount of groundwater production which would otherwise occur for agricultural use in the event this water was not available.

The SE Shafter area will also be connected to the NORSD sewer system. This water will also be used to replenish the groundwater basin through direct or indirect recharge.

OMWC has studied the possibility of direct delivery of treated wastewater for greenbelt areas, parks, etc. The cost to treat the water to meet the standards for direct delivered recycled water and costs to install the distribution system are prohibitive. It was determined that the use of the wastewater for direct and indirect (in lieu) recharge was the most cost effective use of the water.

OMWC has implemented Kern County's first dual municipal water supply system for new developments. This system is patterned after the system developed by Irvine Ranch Water District, wherein there are two pipeline systems: one dedicated to domestic use (blue pipe) and another to landscape and fire suppression uses (purple pipe). Presently the system has been installed in one commercial development and is supplied with treated water. The future plan is to supply this system with untreated groundwater from the shallow aquifer. This shallow water exhibits the presence of nitrates and is not fit for domestic use without treatment. The downturn in the economy in 2008 has slowed residential and commercial development and therefore opportunities to apply the concept, other than mentioned above, have not materialized.

As stated previously, OMWC has entered into an agreement with NORSD to purchase 67% of all treated wastewater. The water is currently being used for crop irrigation purposes in the vicinity of the treatment plant, in lieu of recharging the water directly. However, in the future, if tertiary treatment is applied to the water and it becomes economically feasible to transmit this water into the Company's dual water supply system, the water will be used for landscape and fire suppression purposes.

4.5 FUTURE WATER PROJECTS

OMWC has entered into a water supply contract with North of the River Municipal Water District for increased treated water supplies. This is described in previous sections of this plan. The absence of new residential and commercial development has reduced the demand for new water supplies and therefore the increased supply is not being fully utilized at this time. There are no plans for new water supply projects at this time.

SECTION 5

WATER SUPPLY RELIABILITY
AND
WATER SHORTAGE CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

Groundwater provides a medium to good quality of water to the area. From the time of the incorporation of OMWC in 1919 through 1977 the area was supplied totally from groundwater. During the period of time from 1965 to 1976, the average groundwater extraction was 6,555 acre-feet per year. The Kern River provided adequate recharging of the groundwater for many years until increased flows were diverted for agricultural uses. The resulting decrease in groundwater recharge led to a gradual decline in the groundwater table from 1952 to 1977.

In 1977, imported treated water was made available to OMWC and groundwater pumping was minimized. During the period from 1997 to 2010 the Company pumped 18,320 acre-feet of groundwater and purchased 212,920 acre-feet of imported treated water. A considerable amount of this purchased water has been returned to the groundwater basin within the boundaries of OMWC, and Improvement District No. 4 (ID#4) through recycling of wastewater, either by direct recharge or in lieu recharge, and by direct recharge from landscape irrigation.

With the delivery of State Water Project water to Kern County, the Kern County Water Agency began a groundwater recharge program within ID#4. As a result of this recharge and reduction of groundwater pumping by the Company, the groundwater table under OMWC has risen considerably from 1977 levels. KCWA charges a pump tax on groundwater pumped within the boundaries of ID#4 to defray the costs of the groundwater recharge program. The majority of OMWC'S service area is within the boundaries of ID#4 and it pays pump tax on the groundwater it pumps within ID#4. Any restriction on groundwater pumping by OMWC would be due to well capacity rather than groundwater supply.

The ability of KCWA to supply treated water is dependent on the State Water Project supply. However, ID#4 is able to access and deliver 100% of its total annual water demands under all single and multiple dry-year scenarios considered in this plan. ID#4's groundwater banking projects allow it to cushion impacts associated with State Water Project variability and re-regulate high flow waters for recovery during all dry year scenarios. As of 2010 KCWA has 169,012 afy available for ID#4; 82,496 afy of Table A SWP water and 86,066 afy of banked

water. (Table 3-1, KCWA ID#4-NORMWD 2010 UWMP - herein referred to as "KCWA UWMP"). ID#4 has a total of 254,465 acre-feet of water banked in five projects in the Kern River Fan. (Table 3-13, KCWA UWMP). According to Note (a) of Table 3-5 of the UWMP, NORMWD has a "take or pay" contract with ID#4. ID#4 delivers SWP allocation to NORMWD and makes up any difference in short fall with banked water. Because the recovery estimate shown in Table 3-4 (same document) for Dry Year 4 (79,841 af) is greater than demand at full build out (53,000 af), ID#4 will be able to provide 100% to NORMWD.

Table 20
Basis of water year data

Water Year Type	Base Year(s)
Average Water Year	2009
Single-Dry Water Year	1977
Multiple-Dry Water Years	1931-1934

Table 21
Supply reliability — historic conditions

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
Surface Water	12,000 af	12,000 af	12,000 af	12,000 af	12,000 af
Percent of Average/Normal Year:	100%	100%	100%	100%	100%
Groundwater	1,200 af	1,200 af	1,200 af	1,200 af	1,200 af
Percent of Average/Normal Year:	100%	100%	100%	100%	100%

The effects of a prolonged drought would be minimal due to ID#4's recharge activities, its recovery capability, and if needed, OMWC's recovery wells. Banked groundwater is available to the treatment plant in the event of State Water Project water shortages.

Through ID#4's participation in the groundwater banking projects, the ID#4 well recovery program, and the water supply exchanges, ID#4 is able to access and deliver 100% of its total annual water supply under all single and multiple dry-year scenarios considered in this plan.

5.2 WATER SHORTAGE CONTINGENCY PLAN

5.2.1 STAGES OF ACTION

The OMWC has proposed a three stage rationing plan which includes both voluntary and mandatory provisions.

Rationing Stages and Reduction Goals

Shortage	Stage	Demand Reduction Goal	Type Program
up to 20%	Stage 1	25%	Voluntary
20% - 35%	Stage 2	35%	Mandatory
35% - 50%	Stage 3	50%	Mandatory

Priorities for use of available water, based on California Water Code, Chapter 3 and OMWC policy:

1.) Health and Safety - interior residential and fire fighting
2.) Commercial, Industrial & Governmental - maintain jobs and economic base
3.) Existing Landscaping –
    a.) residential trees and shrubs
    b.) recreational/governmental trees and shrubs
    c.) residential lawns
    d.) recreational/governmental lawns
4.) New Demand

The service connections of the OMWC are in large part non-metered and therefore water consumption cannot be accurately separated between customer class. In general, the 590 metered and 301 non-metered service connections represent commercial, industrial and governmental service connections while the remaining 7,211 service connections serve single family residential customers of which 5,715 are non-metered. Using Tables 7-8, water demands can be separated between non-metered (single family residential) and metered (commercial, industrial & governmental) customers. The average use for the 2010 through 2014 period is used in the following tabulations:

STAGE I	20% Voluntary	Residential	Comm./Indus./Gov.	Totals
Average Use: 2010-14 (afy)		5,428	2,111	7,539
Voluntary Use (afy)		4,342	1,689	6,031
% Reduction		20%	20%	20%

STAGE II	35% Reduction	Residential	Comm./Indus./Gov.	Totals
Average Use: 2010-14 (afy)		5,428	2,111	7,539
Health/Safety (afy)		2,008	133	2,141
Comm./Indus. (afy)		-----	1,455	1,455
Exterior Usage (afy)		1,196	108	1,304
Total (acre-feet)		3,204	1,696	4,900
% Reduction		40%	20%	35%

STAGE III	50% Reduction	Residential	Comm./Indus./Gov.	Totals
Average Use: 2010-14 (afy)		5,428	2,111	7,539
Health/Safety (afy)		1,492	113	1,605
Comm./Indus. (afy)		-----	1,205	1,205
Exterior Usage (afy)		908	51	959
Total (acre-feet)		2,400	1,369	3,769
% Reduction		56%	35%	50%

Supply Shortage Triggering Levels

In order to minimize the social and economic impact of water shortages, OMWC manages water supplies prudently. This plan is designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. The following rationing program triggering levels are established to ensure that these policy statements are implemented.

OMWC has two water sources - surface treated water and groundwater. It has been demonstrated in previous sections of this report that a water supply shortage for OMWC would be extremely rare. In the event of a combination of circumstances leading to a water supply shortage, rationing would take place in the following stages. Rationing stages may be triggered by a shortage in one source or a combination of sources. The following table

lists the criteria for triggering the OMWC's rationing stages.

	PERCENTAGE SHORTAGE	WATER SHORTAGE
STAGE I	up to 20% reduction in supply	-shortage of 1,508 acre-feet
STAGE II	up to 35% reduction in supply	-shortage of 2,639 acre-feet
STAGE III	up to 50% reduction in supply	-shortage of 3,770 acre-feet

5.2.2 ESTIMATE OF MINIMUM SUPPLY FOR THE NEXT THREE YEARS

Table 22 reflects OMWC's estimate of the minimum surface water supply available during the next three years based on the information provided by KCWA in the previously-sited ID#4/ NORMWD Urban Water Management Plan.

OMWC maintains wells to pump groundwater as a safeguard against restricted surface water supplies. ID#4 also maintains wells and operates a groundwater recharge program as a similar safeguard.

While efforts would be taken to reduce user demands, reduced surface water deliveries would be supplemented by both ID #4 and OMWC groundwater supplies.

Table 22
Three-Year Estimated Minimum Water Supply (afy)

Source	Year 1	Year 2	Year 3	Normal
ID#4 Treated Water*	100%	100%	100%	100%
OMWC Wells	100%	100%	100%	100%

*Source - KCWA ID#4 UWMP

5.2.3 CATASTROPHIC SUPPLY INTERRUPTION PLAN

Earthquake

In the event of an earthquake all water storage facilities would be secured and system assessment made. All water line failures would be isolated and repairs made. In the event of a disruption of treated water, groundwater would be pumped to maintain a minimum level of service.

Regional Power Outage

The distribution system is pressured through elevated tanks. Short term power outages would have minimal, if any, negative effect. The ID#4 Purification Plant has an emergency generator capable of producing up to 30% of plant capacity. In addition, the Company has two wells capable of connecting to a portable generator for production of groundwater.

5.2.4 WATER SHORTAGE CONTINGENCY PLAN PROHIBITIONS

The OMWC By-Laws, adopted May 9, 1985 and amended November 10, 1988, contains provisions for water to be conserved.

Article IX Section 1 (I) - "Whereas the water delivered by the OMWC is for the benefit of all stockholders, any shareholder whose use or method of use results in a waste of water in the judgment of the OMWC, shall, at the discretion of the Board of Directors, be assessed penalties, require the installation of a meter and/or have service terminated until such time that the shareholder can make reasonable assurances to the OMWC that the delivered water shall not be wasted."

Article IX Section 1 (k) - " Any violation of these By-Laws by a shareholder shall subject said shareholder to a discontinuance of service by the OMWC until such shareholder shall pay to the OMWC a sum not to exceed Five Hundred Dollars ($500.00) for such violation; provided the Board of Directors may in its discretion waive all or any part of such payment."

In addition, OMWC has maintained a policy that considers wasteful use of water to be, but not limited to:

1.) Running of an open hose unattended without benefit of a sprinkler or spray nozzle for irrigation or other use.
2.) Running of water into streets and alleys.
3.) Leaks in customers' plumbing if not repaired within a 24 hour period.

5.2.4.1 Water Shortage Contingency Plan Penalties

OMWC By-Laws provide for assessment of penalties of up to $500.00, see Article IX Section 1 (k). Minor violators of wasting water are assessed a penalty of between $5.00 and $10.00 per occurrence. Continued violations can subject the customer to discontinuance of service or metering of the service.

5.2.4.2 Water Shortage Contingency Plan Consumption Reduction Methods

The Oildale Service Area is composed of 8,112 service connections of which only 2,096 are metered. This makes consumption limits for the majority of the customers impossible to measure. To impose consumption limits on those service connections which are metered, in the opinion of OMWC, would be discriminatory. OMWC, therefore, has taken the position to treat all customer classes the same. In order to achieve reductions in consumption, OMWC has placed various restrictions on specific uses for each customer class according to the stage of shortage.

STAGE I Minimal shortage up to 20 percent - Voluntary

OMWC shall:

1.) Notify all customers with regard to the water shortage.
2.) Mail information to every customer explaining the importance of significant water use restrictions.
3.) Provide technical information to customers regarding methods of improving efficiency.
4.) Conduct and/or support local media campaigns to remind customers of the need to save water.
5.) Limit landscape watering to between 8:00 pm and 9:00 am.

STAGE II Moderate to severe 20% - 35% shortage; Mandatory Program

In addition to the actions listed in Stage 1, OMWC shall establish mandatory restrictions on water usage for each customer class.

1.) Draining or re-filling of swimming pools will not be allowed.
2.) New building in the area will be restricted to those parties receiving building permits prior to the water shortage emergency.
3.) Installation of new lawns or winter lawn planting will not be permitted.
4.) Use of water for cleaning driveways, curb and gutters, streets, buildings, parking lots will not be permitted.
5.) Decorative fountains, ponds and dust control will be severely restricted.
6.) All construction water to be non-potable or re-cycled water if available.
7.) Even numbered residence addresses will only be allowed to water landscape on even numbered days and odd numbered houses on odd numbered days.

STAGE III - Critical 35% - 50% shortage; Mandatory Program

In addition to the actions listed in Stage I and II, OMWC shall establish mandatory restrictions on water usage for each customer class.

1.) Restricted use of sprinklers or sprinkling systems unless attended.
2.) Limit watering of landscape to between 6 am and 9 am.
3.) All recreation use of water restricted.
4.) Commercial, industrial and governmental entities to perform water audit in accordance to OMWC requirements.
5.) Commercial, industrial and governmental landscape connection to be limited to maintaining trees and shrubs only.
6.) Swimming pools required to be covered during non-use.

5.2.5 WATER SHORTAGE CONTINGENCY PLAN REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME IMPACTS

The economic impacts of a reduction would be minimal due to the fact that the non-metered service connections are billed on a flat rate system according to the number of units and lot size per connection, rather than water consumption. There would be some loss of income from the metered accounts. It is anticipated that this loss would be offset by the lower operating costs due to the reduction of water use by all consumers.

OMWC has and continues to maintain a funded reserve for emergency conditions which may arise. This fund is maintained by surplus revenues from all sources of income.

The mechanism for determining actual reductions in system usage would be determined by the total amount of water purchased and pumped by OMWC. As most services are non-metered, there is no practical method of determining specific water reductions per customer.

5.3 WATER QUALITY IMPACTS ON RELIABILITY

Treated Water

It is anticipated that water quality will be minimally affected due to water shortages. ID#4 owns and operates a conventional water treatment facility, which treats 100% of the delivered water supply. ID#4 does not anticipate water quality impacts which would reduce the reliability of its sources of supply.

ID#4 has operated a groundwater recharge and recovery program for many years. This is discussed in previous sections of this plan. Recovered groundwater supplies are processed by ID#4's water treatment plant. Therefore it is not anticipated that there will be water quality issues with water delivered to OMWC from this water source.

OMWC currently operates its own wells. These are an additional backup to ID#4's wells. Several of OMWC's wells have been impacted by water quality issues. The reliance on groundwater to supply future developments has been studied by OMWC to determine its viability as a future supply. If necessary, well head treatment processes can be employed if wells with

quarter quality issues must be operated.

The SE Shafter area will be 100% served by groundwater. In order to minimize groundwater quality impacts on OMWC's ability to deliver a reliable supply of groundwater, a dual distribution system will be installed. This is discussed in previous sections of this plan.

5.4 WATER SERVICE RELIABILITY

5.4.1 Supply and Demand Comparison

Normal Water Year Supply (afy)					
	2010	**2015**	**2020**	**2025**	**2030**
Supply	8,173	7,930	7,768	8,524	9,324
% of Normal Year	100	100	100	100	100

Normal Water Year Demand (afy)					
	2010	**2015**	**2020**	**2025**	**2030**
Demand	8,173	7,930	7,768	8,524	9,324
% of Year 2010	100	97	95	104	114

Projected Normal Year Supply and Demand Comparison (afy)					
	2010	**2015**	**2020**	**2025**	**2030**
Supply Totals	8,173	7,930	7,768	8,524	9,324
Demand Totals	8,173	7,930	7,768	8,524	9,324
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

5.4.2 Projected Single Dry Year Supply and Demand Comparison

Projected Single Dry Year Supply (afy)					
	2010	**2015**	**2020**	**2025**	**2030**
Supply	8,173	7,930	7,768	8,524	9,324
% of Normal Year	100	100	100	100	100

Projected Single Dry Year Demand (afy)					
	2010	**2015**	**2020**	**2025**	**2030**
Demand	8,173	7,930	7,768	8,524	9,324
% of Year 2010	100	100	100	100	100
	2010	**2015**	**2020**	**2025**	**2030**
Supply Totals	8,173	7,930	7,768	8,524	9,324
Demand Totals	8,173	7,930	7,768	8,524	9,324
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

5.4.3 Projected Multiple Dry Year Supply and Demand Comparisons

Projected Supply During Multiple Dry Year Period Ending in 2015 (afy)					
	2011	**2012**	**2013**	**2014**	**2015**
Supply	8,131	8,085	8,037	7,985	7,930
% of Normal Year	100	100	100	100	100

Projected Demand Multiple Dry Year Period Ending in 2015 (afy)					
	2011	**2012**	**2013**	**2014**	**2015**
Demand	8,131	8,085	8,037	7,985	7,930
% of Year 2010	99	99	98	98	97

Projected Supply & Demand Comparison During Multiple Dry Year Period Ending 2015 (afy)					
	2011	**2012**	**2013**	**2014**	**2015**
Supply Totals	8,131	8,085	8,037	7,985	7,930
Demand Totals	0	0	0	0	0
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

Projected Supply During Multiple Dry Year Period Ending in 2020 (afy)					
	2016	**2017**	**2018**	**2019**	**2020**
Supply	7,908	7,881	7,849	7,811	7,768
% of Normal Year	100	100	100	100	100

Projected Demand Multiple Dry Year Period Ending in 2020 (afy)					
	2016	**2017**	**2018**	**2019**	**2020**
Demand	7,908	7,881	7,849	7,811	7,768
% of Year 2010	97	96	96	96	95

Projected Supply & Demand Comparison During Multiple Dry Year Period Ending in 2020 (afy)					
	2016	**2017**	**2018**	**2019**	**2020**
Supply Totals	7,908	7,881	7,849	7,811	7,768
Demand Totals	7,908	7,881	7,849	7,811	7,768
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

Projected Supply During Multiple Dry Year Period Ending in 2025 (afy)					
	2021	**2022**	**2023**	**2024**	**2025**
Supply	7,916	8,065	8,216	8,369	8,524
% of Normal Year	100	100	100	100	100

Projected Demand Multiple Dry Year Period Ending in 2025 (afy)					
	2021	**2022**	**2023**	**2024**	**2025**
Demand	7,916	8,065	8,216	8,369	8,524
% of Year 2010	97	99	100	102	104

Projected Supply & Demand Comparison During Multiple Dry Year Period Ending 2025 (afy)					
	2021	**2022**	**2023**	**2024**	**2025**
Supply Totals	7,916	8,065	8,216	8,369	8,524
Demand Totals	7,916	8,065	8,216	8,369	8,524
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

Projected Supply During Multiple Dry Year Period Ending in 2030 (afy)					
	2026	**2027**	**2028**	**2029**	**2030**
Supply	8,680	8,838	8,999	9,161	9,324
% of Normal Year	100	100	100	100	100

Projected Demand Multiple Dry Year Period Ending in 2030 (afy)					
	2026	**2027**	**2028**	**2029**	2030
Demand	8,680	8,838	8,999	9,161	9,324
% of Year 2010	106	108	110	112	114

Projected Supply & Demand Comparison During Multiple Dry Year Period Ending 2030 (afy)					
	2026	**2027**	**2028**	**2029**	**2030**
Supply Totals	8,680	8,838	8,999	9,161	9,324
Demand Totals	8,680	8,838	8,999	9,161	9,324
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0	0	0	0	0
Difference as % of Demand	0	0	0	0	0

SECTION 6

DEMAND MANAGEMENT MEASURES

6.1 WATER DEMAND MANAGEMENT MEASURES

OMWC was formed in 1919 to supply water to its customers. Each customer must be a stockholder in the corporation. OMWC was organized as a not-for-profit corporation to supply water to its customers/stockholders at cost and therefore has a limited purpose. Any action of OMWC must provide a benefit to its customers which could be in the form of better quality, more reliable or less expensive water. In addition, the expansion of OMWC's customer base cannot be at the expense of existing customers. Installing meters and charging higher cost for water to the existing customers in order to provide a water supply for new development has not been viewed as a benefit to the existing customers and has been historically rejected. As a result, it has been the policy of OMWC to require new developing areas to pay for all costs associated with securing, developing and delivering a water supply to the development. Expending funds on meters or any other conservation measure in order to reduce consumption with no corresponding decrease in overall expenses has not been accepted by customers/stockholders. Any activity of OMWC must be beneficial or at a minimum have no effect on current customers.

It is OMWC's position that any activity which reduces overall expenses should be implemented as a matter of good business practice.

As a result, OMWC has undertaken numerous water conservation measures over the past decades in order to minimize expenses of OMWC thereby maintaining as low a rate schedule as possible. Water conservation measures which have been cost effective have been welcomed by customers. Likewise, conservation measures aimed at reducing water consumption without a decrease in expenses have been rejected by OMWC's customers. The following water conservation measures or "Demand Management Measures" have been reviewed by OMWC over the years and adopted where cost-effective. In addition, other conservation measures have been reviewed and adopted due to their effectiveness in reducing costs.

In an attempt to determine the cost-effectiveness of the Demand Management Measures (DMM's), several assumptions must be made. The first assumption is the DMM's must reduce costs. OMWC currently has two sources of water: 1) treated State Water Project surface water and ID#4 treated groundwater, and 2) groundwater from existing OMWC wells. Existing supplies from both sources exceed current demand. Any reduction in treated water from the ID#4

Purification Plant would save only the power costs as the contract for treated water requires the payment of the full contract entitlement amount whether taken or not. All water used in excess as a result of overwatering, inefficient internal use, etc. is returned to the groundwater basin for reuse.

OMWC has and continues to be concerned with water conservation. In addition, the customers are also made aware of the importance of efficient use of their water supplies. Conservation measures listed in the DMM may or may not result in a reduction in water usage due to demand hardening as a result of the current efficient water use practices.

The following are the conservation measures currently being implemented along with those which are not planned to be implemented, either due to a low benefit/cost ratio or resistance by the OMWC's customers/stockholders.

A. Water Survey Programs

Water survey programs are not performed by the OMWC. As the vast majority of residential customers are non-metered, it is impossible to determine high-end water users, therefore all residential users would have to be surveyed. The effectiveness of the program if implemented could not be determined and therefore a cost-effectiveness analysis is not possible. Although water surveys are not performed on internal usage, outside water usage is monitored during high use summer months.

1. Water Patrol Program

One of the most successful OMWC programs to prevent excessive use of water on the exterior of the house is OMWC's Water Patrol Program. During the months of June through September, a full-time summer employee is hired. The prime function of this person is to patrol the Oildale Service Area for water waste, excessive use of water and leaks. Along with the help of permanent personnel, the Oildale Service Area is patrolled from 6:00 a.m. to 9:00 p.m. during the summer months. In the event that water is being used excessively by a customer, the Water Patrol or another OMWC employee, verbally notifies the individual and/or issues a warning for wasting water.

After being warned two times in one season, any additional water waste carries a penalty. In the event of an unattended open hose, or when water is

otherwise grossly wasted, a penalty is automatically issued for the first offense.

All field personnel, including Water Patrol, carry various printed information. Landscape Water Guides, door hanger "reminders", and other water conservation brochures are distributed to customers in an ongoing effort to educate customers found wasting water. The majority of our customers is aware of the Water Patrol Program and is instrumental in helping us to track any water wasters. We have received a very positive response from our customers in this form of water conservation.

2. Meter Testing Program

The testing of meters for accuracy is performed when variations in usage are observed. Meters in excess of 2" are tested by an outside firm periodically. If required, repair or replacement is performed.

B. Residential Plumbing Retrofit

OMWC has obtained water conservation kits (dye tablets, shower flow restrictors and toilet displacement bag) of which over 3,500 have been distributed directly to our customers. These kits are continually available free of charge to all customers.

C. System Water Audits, Leak Detection, and Repair

1. Main Replacement Program

OMWC has taken an aggressive position in reducing loss of water due to main line and service line leaks. Prior to beginning a main replacement program in 1977, approximately 50 main line leaks and 60 service line leaks were repaired yearly. In 1977 OMWC initiated a main replacement program and replaced over 50,000 feet of cast iron main lines in an effort to reduce leakage from pipeline breaks. As a result, main leakage has been reduced by over 95%. In the process of replacing these main lines, individual galvanized service connections were replaced to reduce the possibility of leakage by the individual services at a later date. This main replacement program is still continuing and plans are currently being made to replace additional cast iron mains which prove to be unreliable.

2. Visual Inspection of Existing System

OMWC's facilities are visually checked on a regular basis during daily operations to identify any leakage which may exist. All customer calls regarding possible leakage are addressed by field personnel.

OMWC, in conjunction with the Department of Water Resources and KCWA, co-sponsored a leak detection training seminar. All field personnel of OMWC, along with other water district attendees, were trained in the use of leak detection equipment. To date, OMWC has not initiated a formal leak detection program. Such a program is being reviewed for possible implementation.

3. Gate Valve Locating and Exercising

Underground gate valves are regularly located, exercised and boxes raised to grade. This insures that the gate valves operate correctly and are readily accessible in the event of a main line break.

4. Customer Plumbing Maintenance

OMWC has a policy of requiring its customers to maintain their plumbing in good working order. In the event that a leak is found, or we are made aware of a leak in one of our customer's plumbing system, the property owner is informed that repairs must be made in a timely manner.

D. Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

OMWC currently installs meters on all new connections and bills using a commodity rate schedule. OMWC modifies a certain number of flat rate connections annually. The modification includes installation of a meter box with corp stops in anticipation of installing meters by 2025.

Yearly cost of metering existing non-metered customers (from 2005 UWMP):

Cost of installation:	
6,016 @ $400/connection=	$2,406,400
Loan Cost @ 7% with 20 year payback =	$223,916/yr.
Cost to maintain, read, bill and replace after 20 years	
6,016 @ $9.60/mo =	693,043/yr.
Total Yearly Costs	$ 916,959

Avoided Costs:

Non-metered customers = 6,016
Non-metered usage/yr. = 5,063 acre-feet
Assumed Reduction @ 20% = 1,012 acre-feet
Avoided Costs @ $75.00/acre-foot = $75,900

This DMM is determined not to be cost-effective. OMWC has no method of analyzing non-economic costs associated with environmental, social, health, customer impact or technology. Due to the spread between the costs to OMWC and avoided costs, it is highly unlikely that these factors would close the disparity. However, as noted above, OMWC is preparing for installation of meters on flat rate services by the year 2025.

E. Large Landscape Conservation Programs and Incentives

OMWC is currently working with the Kern County Parks Department, NOR Recreation and Park District and others in performing water audits on local parks, school sites, shopping centers, condominium tracts and other large exterior water use areas. These audits consist of inspection of existing irrigation systems and monitoring the volume of water used. Recommendations are made regarding the irrigation system modifications which would be more efficient; length of watering time; and time of day when irrigation is performed. OMWC's water patrol plays an integral part in policing exterior water use in large landscape areas.

The County of Kern has a landscape requirement for all new construction. OMWC has no authority to implement such a program, however, encourages compliance with the

County requirements.

F. High-Efficiency Washing Machine Rebate Programs

OMWC does not offer rebates for high-efficiency washing machine replacements. The reduction of internal water usage is not a net savings of water to the basin as nearly all interior water is recycled. The savings to the Company would be the energy to pump the water to our customers. Energy costs of approximately $75 per acre-foot renders the program cost ineffective. A 1% reduction in interior water usage (68 million gallons) would reduce OMWC's expenses by approximately $1,000. A rebate of $100 per machine would replace 10 machines in the service area. Assuming a 25% reduction in the 10 homes (considerably more than would result) would net less than 600,000 gallons of water or less than $138 in avoided costs. The DMM is not cost-effective.

G. Public Information Programs

OMWC supports public water information programs. The programs we are regularly involved with are the WATER AWARENESS WEEK, the WATER ASSOCIATION OF KERN COUNTY local water conservation messages via television and radio, and the annual AIMS WORKSHOPS provided to local educators. Additionally, water education materials are provided to schools and teachers upon request at no cost.

Each monthly billing statement contains a short message concerning water conservation. Printed on the reverse side of each bill is a reminder to conserve water. OMWC's bills are a postcard type statement, therefore envelope "stuffers" are not sent with monthly billings. OMWC encourages customer involvement by requesting customers to send in conservation messages to be printed on monthly bills. When a customer's suggestion has been used, their initials are printed on the bills and an OMWC conservation mug is given to them.

Customers are periodically mailed a newsletter, which provides current water supply information and a future outlook. Included in the newsletters is a section on Water Conservation Tips. OMWC has a wide variety of water conservation literature available free to customers at the office, and these are mailed upon request. Water conservation balloons in assorted colors are the favorite of the youngest customers. These are handed out daily.

H. School Education Programs

The KCWA provides in-school education programs to Greater Bakersfield Schools through its public education specialist. This program is partially funded by ID#4 which derives the funds for this program from treated water sales and the groundwater pump tax.

I. Conservation Programs for Commercial, Industrial and Institutional Accounts

OMWC has a small number of large industrial, commercial and institutional customers. Water usage is monitored for each of these customers. Increases in demands are noted on a monthly basis and field personnel review the situation with the customer to determine the cause of the increase.

J. Wholesale Agency Programs

OMWC is not a wholesale entity and therefore this is not applicable.

K. Conservation Pricing

The majority of OMWC's service area is non-metered. Therefore water conservation pricing is not applicable. Metered customers of OMWC are mostly large water users. OMWC is planning to review the metered rate structure before 2015.

L. Water Conservation Coordinator

OMWC's General Manager serves as the water conservation coordinator.

M. Water Waste Prohibition

In November of 1988, OMWC's Board of Directors amended the OMWC By-Laws to allow for the assessment of penalties, installation of a meter and/or discontinuance of water service to customers whose water use or method of use results in the waste of water, as determined by OMWC.

N. Residential Ultra-Low-Flush Toilet Replacement Programs

OMWC does not implement this measure. KCWA ID#4 has a rebate program

which is available to OMWC's customers.

OMWC has determined this program to be cost prohibitive. The reduction of internal water usage is not a net savings of water to the basin as most interior water use is recycled. The savings to the Company would be the energy to pump the water. Assuming that the average residence uses 310 gallons per day for interior use, and further assuming a 20% reduction in interior water use (62 gallons/day), nets a savings of 22,630 gallons. The avoided costs to OMWC would be less than $5.20 per year and therefore would not be cost-effective.

6.2 DEMAND MANAGEMENT MEASURES PROGRAM

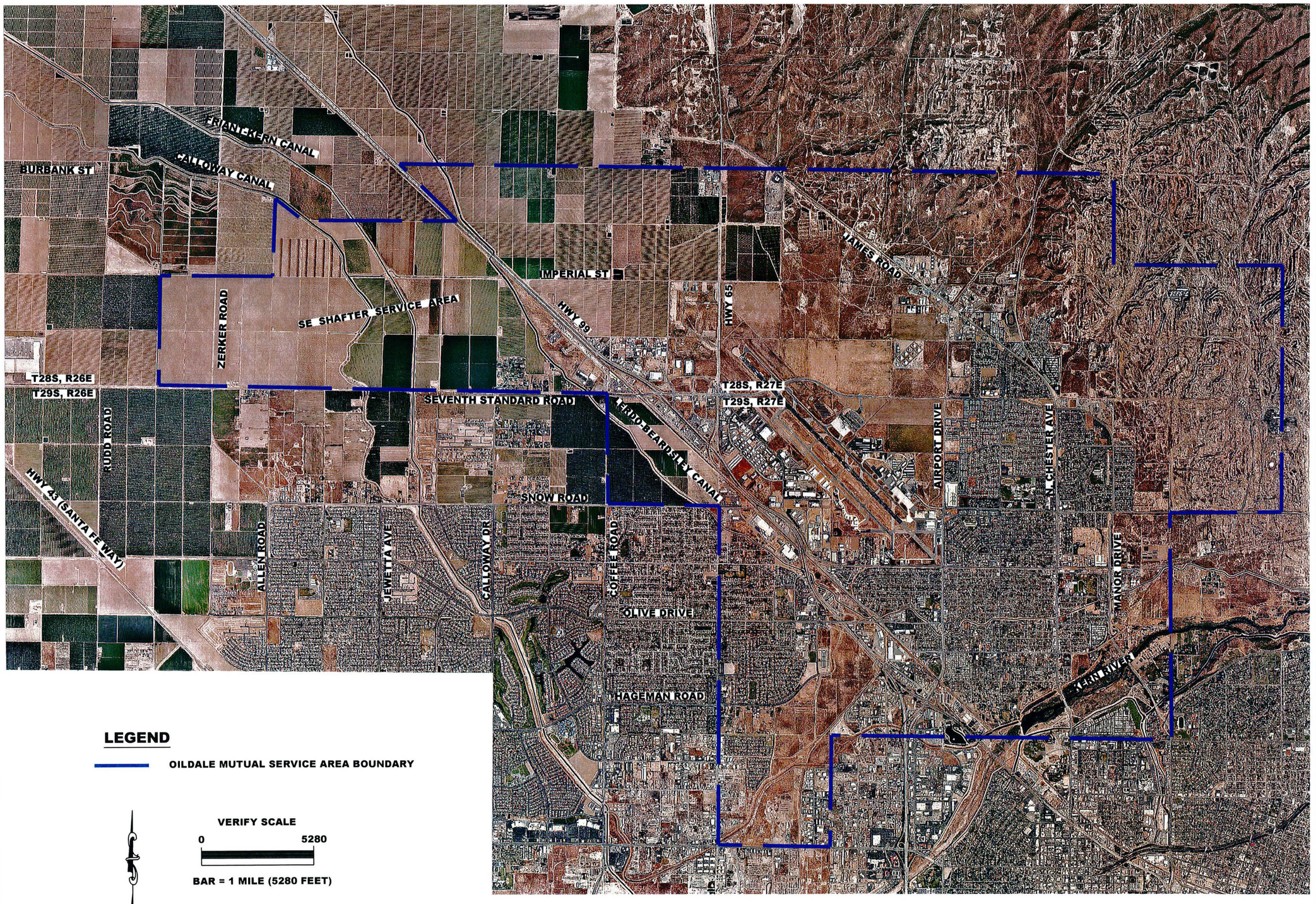
	Demand Management Measure	**Implemented**	**Not Implemented**	**Planned Implementation Date**
1	Water survey programs for sfr & mfr customers.		X	
2	Residential plumbing retrofit.	X		
3	System water audits, leak detection and repair.	X		
4	Metering with commodity rates for all new connections and retrofit existing connections.	X		
5	Large landscape conservation programs and incentives.	X		
6	High-efficiency washing machine rebate programs.		X	
7	Public information programs.	X		
8	School education programs.	X		
9	Conservation programs for commercial, industrial and institutional accounts.	X		
10	Wholesale agency programs.		N/A	

11	Conservation pricing.	X		2025
12	Water conservation coordinator.	X		
13	Water waste prohibition.	X		
14	Residential ultra-low-flush toilet replacement programs.		X	

2010
URBAN WATER MANAGEMENT PLAN
Oildale Mutual Water Company

EXHIBIT "A"

SERVICE AREA MAP



LEGEND

OILDALE MUTUAL SERVICE AREA BOUNDARY

VERIFY SCALE

0 5280

BAR = 1 MILE (5280 FEET)

EXHIBIT "A"

REVISION	BY

DEE JASPAR & ASSOCIATES, INC.
CIVIL ENGINEERS
[redacted]

OMWC SERVICE AREA MAP
2010

OILDALE MUTUAL WATER COMPANY
KERN COUNTY, CALIFORNIA

DRAWN	RDN
CHECKED	DJA
DATE	JUNE 9, 2011
SCALE	AS SHOWN
FILE	
JOB NO.	
SHEET	1
OF	1 SHEETS

S:\Oildale Mutual Water Company\General\Drawings\Service Area Boundary Map 2011.dwg 6/9/2011 11:20:18 AM PDT